

REMARKS

Claims 1, 2, 5-9 and 11-13 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Pollitt et al., PCT Publication No. WO 98/21159, in view of evidence (product brochures) submitted by the Applicant on June 1, 2004.

The Examiner's rejections are respectfully traversed.

The Applicant's invention as claimed is directed to a settable mixture including polybutadiene, a flow-enhancing liquid and a dry silica sand. The polybutadiene occupying between 2% and 4% by volume of the mixture and the sand having no more than 2% water content. Additionally, the sand may contain maximums of aluminum oxide and ferrous oxide of 1.4% and 0.5% respectively, based on the weight of the silica.

The Examiner has indicated that the Pollitt et al.'159 reference is directed to a mixture of materials settable on exposure to the atmosphere. The reference is directed to a basic settable mixture comprising polybutadiene, a flow-enhancing liquid and particulate materials. There is no discussion of any problems when using the settable mixture. Thus, they never disclosed or suggested that there were any problems when using this mixture, as it was never recognized as a problem and therefore no one would look for a solution to the problem.

Two years prior to the priority date of the present application, the Applicant was selling a product called GEO-fix which is a mixture of polybutadiene, a flow-enhancing liquid and dry sand. The mixture is placed in a bag and vacuum sealed so as to keep it away from the atmosphere until it is used, whereupon it may be spread over paving and brushed into gaps to form grout which cures upon exposure to the atmosphere and which must be kept dry for a sufficient time for the curing to take place.

Many tests have been carried out to achieve a fast setting time so that the product could be used in conditions where rain may well be expected within three hours or so. Manufacture of the product on a commercial scale commenced late in 1997, but after several months complaints were received that the product was causing staining of the paving. At first this was thought to be caused by the use of excessive polymer content within the mixture, but after several batches were tested this was found not to be the case. At the time, the content of the sand was dismissed as a probable cause, owing to the fact that several sands had been tried during the pre-manufacturing period without any staining or adverse affects being noted.

Crisis meetings took place to try to resolve this problem, and it was agreed as a result that further research needed to be carried out, since it was suggested that perhaps the problem was arising as a result of lengthy storage of the product, notwithstanding that it was contained within sealed bags.

As a result of further tests, in which storage periods were simulated by accelerated trials, it was found that the metallic content of the sand was the cause of the staining, and so the inventor conceived that to prevent staining the sand should contain no more than 2% aluminum oxide and no more than 1% ferrous oxide by weight of the sand. Even greater assurance could be achieved by selecting a sand with no more than 1.4% by weight of aluminum oxide and no more than 0.5% by weight of ferrous oxide. These are the parameters now included in the claim as submitted in the last response.

There were major problems with the product that the Applicant was selling and there was no known solution for quite some time. If the testing was mere experimentation with different sands, the Applicant may have found that one particular sand worked but still would not have understood and recognized that it was not a single sand that produced a product

without staining but comprehended that there still must be a combination of no more than 1.4% by weight of aluminum oxide and no more than 0.5% by weight of ferrous oxide in order for the particular silicas to prevent staining.

It must still be realized that if either the aluminum oxide or the ferrous oxide content is outside the range specified in the claims then staining will occur, and in most cases setting time is excessive.

Determination that a novel combination would have been obvious requires supporting teaching in prior art. A retrospective view of inherency cannot serve as a substitute for actual teaching or suggestion in prior art which supports selection and use of various elements in particular claimed combination.

Prior art must be considered for all it teaches including disclosures that point toward the invention as well as that which teaches away from the invention. It is insufficient that the prior art disclosed the components of the patented device, either separately or used in other combinations; there must be some teaching, suggestion, or other incentive to make the combination made by the inventor.

A *prima facie* case of obviousness exists when the prior art provided the motivation to make the claimed invention in the expectation that it would have similar properties.

In this case, there is a previous prior art mixture, however there is no mention that staining is a problem. Also there are sands for sale in which the oxide levels can be tested. There is nothing pointing toward the understanding that only when one uses a specific combination of oxide levels will staining be avoided and that the setting time will be acceptable.

Only by ensuring that these two metallic contents are maintained inside the range can the Applicant be certain that the product will not cause staining, and thus the Applicant's invention is not anticipated by Pollitt et al.'159, in view of evidence (product brochures) submitted by the Applicant on June 1, 2004.

Claims 1, 2, 5-9 and 11-13 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Pollitt, GB 2,322,630 in view of evidence (product brochures) submitted by the Applicant on June 1, 2004.

The Examiner's rejections are respectfully traversed.

The Pollitt'630 is again, directed to a settable mixture including polybutadiene, including brown glass. Again, there is no mention of that a material with oxide levels outside of the Applicant's claimed invention would even cause staining, thus it was not identified as a problem and thus no solution would have been forthcoming.

As described above, when the Applicant was first notified of complaints of staining, they asked the employees to hold a meeting and it was first believed that the staining was due to storage time of the product. After completion of research and determination that storage of the finished product had no effect on staining, the inventors again went back to the drawing board. Eventually, they determined that the combination of metal oxides would have a maximum level or staining would occur. The Examiner has not show any disclosure, teaching or suggestion by our references that the combination of specific sands within a settable mixture could prevent staining, and thus be an important element in manufacturing this material. As there is no suggestion or disclosure the Applicant's invention is not obvious over Pollitt'630 in view of evidence (product brochures) submitted by the Applicant.

As the cited prior art reference does not disclose or even suggest the need for specific ranges of both the aluminum oxide and the ferrous oxide, the Applicant does not believe their invention is anticipated by Pollitt, WO 98/21159.

In view of the foregoing, the Applicant respectfully contends that the teachings of Pollitt et al.'159, in view of evidence (product brochures) submitted by the Applicant on June 1, 2004, do not anticipate the claimed invention. The Applicant also contends that Pollitt, GB 2,322,630 in view of evidence (product brochures) submitted by the Applicant on June 1, 2004, does not establish a *prima facie* case of obviousness under the provisions of 35 U.S.C. §103(a). Thus, claims 1, 2, 5-9 and 11-13 are considered to be patently distinguishable over the prior art of record.

The application is now considered to be in condition for allowance, and an early indication of same is earnestly solicited.

The Commissioner is authorized to charge Deposit Order Account No. 19-0079 for any fees that may be required.

Respectfully submitted,



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